

## **REMARKS**

The Office Action dated June 18, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claim 9 has been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. Therefore, claims 1-22 are currently pending in the application and are respectfully submitted for consideration.

The Office Action rejected claims 1, 2, 5, 6, 8-10, 13, 15-17, 20, and 21 under 35 U.S.C. §102(b) as allegedly anticipated by Marin, *et al.* (U.S. Patent No. 5,936,940) (“Marin”). The Office Action alleged that Marin discloses or suggests every claim feature recited in claims 1, 2, 5, 6, 8-10, 13, 15-17, 20, and 21. The rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claims 2-7 are dependent, recites a method, which includes incrementing a port transmission rate using a variable resolution. The method further includes transmitting data through the port using the incremented port transmission rate.

Claim 8 recites a data transmission rate control system, which includes means for incrementing a port transmission rate using a variable resolution. The system further includes means for transmitting data through the port using the incremented port transmission rate.

Claim 9, upon which claims 10-15 are dependent, recites a data transmission rate control system, which includes a rate setting engine configured to increment a port

transmission rate using a variable resolution. The system further includes a transmission engine, communicatively coupled to the rate setting engine, configured to transmit data through the port using the incremented port transmission rate.

Claim 16, upon which claims 17-22 are dependent, recites a computer-readable medium having stored thereon instructions to cause a processor to execute a method. The method includes incrementing a port transmission rate using a variable resolution. The method further includes transmitting data through the port using the incremented port transmission rate.

As will be discussed below, Marin fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Marin generally discloses an enhanced adaptive rate-based congestion control system for packet transmission networks which use the absolute rather than the relative network queuing delay measure of congestion in the network. The congestion control system also provides a small reduction in rate at low rates and a large reduction in rates at high rates. A logarithmic rate control function provides this capability. (see Marin at Abstract).

Applicants respectfully submit that Marin fails to disclose, teach, or suggest, all of the elements of the present claims. For example, Marin fails to disclose, teach, or suggest, at least, *“incrementing a port transmission rate using a variable resolution,”* as recited in independent claim 1, and similarly recited in independent claims 8-9 and 16.

As discussed above, Marin discloses an enhanced adaptive rate-based congestion control system for packet transmission networks. Specifically, Marin discloses a system of adjusting connections rates based upon a calculation of an actual current path delay. (see Marin at col. 3, lines 7-9). Marin discloses both **increasing** a connection rate and **reducing** a connection rate. (see Marin at col. 3, lines 7-14). However, independent claim 1 recites “**incrementing** a port transmission rate,” and independent claims 8-9 and 16 recite similar limitations. Therefore, the portions of Marin directed towards **reducing** a connection rate clearly do not disclose, or suggest, “*incrementing a port transmission rate using a variable resolution*,” as recited in independent claim 1, and similarly recited in independent claims 8-9 and 16, and thus, Applicants will only focus on the portions of Marin directed towards **increasing a connection rate**.

Regarding the increase of a transmission rate, Marin discloses that the system allows a connection to increase its transmission rate, when no incremental delay is detected. Furthermore, Marin discloses that the transmission rate change policy of the system provides a large increase in the transmission rate when the rate is low, but provides a small increase in the transmission rate when the rate is high. (see Marin at col. 3, lines 7-9 and 15-20). However, while Marin discloses that the size of the overall transmission rate increase is based on the current transmission rate, Marin fails to disclose, or suggest, that the rate increase is implemented **using a variable resolution**.

As explained in the specification of the present invention, the resolution is the quantized amount (i.e. increment) of a rate change. (see Specification at paragraph

0004). If the increment of a rate change is the same for each rate increase, than the resolution is fixed, not variable, even if the size of the rate increase is different. For example, using a resolution of 64 Kbps, an initial rate of 64 Kbps may be increased to 128 Kbps. Subsequently, the new rate of 128 Kbps may be increased 256 Kbps. Finally, the new rate of 256 Kbps may be increased to 512 Kbps. While the size of the rate increase is variable, (the first rate increase being 64 Kbps, the second rate increase being 128 Kbps, and the third rate increase being 256 Kbps), the resolution is fixed, as each rate increase is based on an increment of 64 Kbps.

In contrast, according to embodiments of the invention, the resolution is variable, not fixed. Specifically, according to an exemplary embodiment of the invention, a rate data structure includes three segments, each having a different resolution. The first segment is from 0 to 2 Mbps with a resolution of 64 Kbps. Thus, the rate can be increased in 64 Kbps increments. The second segment is from 2 Mbps to 100 Mbps with a resolution of 1 Mbps. Thus, the rate can be increased in 1 Mbps increments. The third segment is from 100 Mbps to 1000 Mbps with a resolution of 8 Mbps. Thus, the rate can be increased in 8 Mbps increments. (see Specification at paragraph 0033). Thus the resolution is variable.

Marin fails to disclose variable resolution. Instead, Marin discloses a system which utilizes a table driven rate changing mechanism where the entries in the table are the projected increases in allowable rates. An initial transmission rate is chosen, and increase acknowledgment causes the system to locate a new, higher rate in the table.

Successive transmission rates in the table are related to each other based on a logarithmic function. (see Marin at col. 9, lines 37-64; col. 10, lines 15-30, 58-61; col. 12, lines 8-15). Because Marin does not discuss the increment of the rate change, the disclosure that the transmission rates in the table provide a large increase in the transmission rate when the rate is low, but provide a small increase in the transmission rate when the rate is high, does not suggest that the **resolution** is variable.

Therefore, for at least the reasons discussed above, Marin fails to disclose, teach, or suggest, all of the elements of independent claims 1, 8-9, and 16. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claims 2 and 5-7 depend upon independent claim 1. Claims 10 and 13-15 depend upon independent claim 9. Claims 17 and 20-22 depend upon independent claim 16. Thus, Applicants respectfully submit that claims 2, 5-6, 10, 13-14, 17, and 20-21 should be allowed for at least their dependence upon independent claims 1, 9, and 16, and for the specific elements recited therein.

The Office Action rejected claims 3, 4, 11, 12, 18, and 19 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Marin in view of Honkasalo, *et al.* (U.S. Patent No. 6,219,343) (“Honkasalo”). The Office Action took the position that Marin discloses all the elements of the claims with the exception of “resolution inversely proportional to the rate,” and “the resolution decreases exponentially as the rate increases.” The Office Action then cited Honkasalo as allegedly curing the deficiencies

of Marin. (see Office Action at page 3). The rejection is respectfully traversed for at least the following reasons.

The description of Marin, as discussed above, is incorporated herein. Honkasalo is directed to controlling data rate allocations to data packet users transmitting packet data over a CDMA cellular communication network. Traffic channels and radio capacity allocated for packet data services within the network are evaluated to determine an available resource for a packet data transmission. A rate control algorithm is employed to determine a data rate allocation for the packet data transmission. (see Honkasalo at col. 7, lines 3-5). The transmit power of a transmitter is limited to provide the determined data rate allocation for the packet data transmission. (see Honkasalo at col. 7, lines 33-36).

Claims 3-4, 11-12, and 18-19 depend upon independent claims 1, 9, and 16, respectively. As discussed above, Marin does not disclose, teach, or suggest all of the elements of independent claims 1, 9, and 16. Furthermore, Honkasalo does not cure the deficiencies in Marin, as Honkasalo also does not disclose, teach, or suggest, at least, *“incrementing a port transmission rate using a variable resolution,”* as recited in independent claim 1, and similarly recited in independent claims 9 and 16. Thus, the combination of Marin and Honkasalo does not disclose, teach, or suggest all of the elements of claims 3-4, 11-12, and 18-19. Additionally, claims 3-4, 11-12, and 18-19 should be allowed for at least their dependence upon independent claims 1, 9, and 16, and for the specific elements recited therein.

The Office Action rejected claims 7, 15, and 22 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Marin in view of Miao (U.S. Patent Publication No. 2004/0017306) (“Miao”). The Office Action took the position that Marin discloses all the elements of the claims with the exception of “segmented data rates in range above 2Mbps to 1000Mbps.” The Office Action then cited Miao as allegedly curing the deficiencies of Marin. (see Office Action at pages 3-4). The rejection is respectfully traversed for at least the following reasons.

The description of Marin, as discussed above, is incorporated herein. Miao is directed to a scalable analog-to-digital (A/D) converter that is used to substitute a very-high-speed A/D converter. The A/D converter has flexibility and scalability including the number of low-speed A/D converters, fine-adjustable attenuations, digital FIR filters or one digital FIR filter, with operating in parallel. Fig. 6 illustrates a digital down conversion (DDC) 56. The DDC 56 works by first shifting the ultra wideband signals with a frequency range from 3.1 GHz to 10.6 GHz of interest to baseband signals by using the complex multiplying 120 the received signals of the scalable A/D converter 54 by a complex oscillator 122. The baseband signals of output of the complex multiplier 120 are passed through the decimation lowpass FIR filter  $H_{\text{sub}}(z)$  124, which is controlled by the clock control 128. The output signals from the decimation lowpass FIR filter  $H_{\text{sub}}(z)$  124 are then passed one of the down sampling blocks 130a-130g through the selectable MUX 132, which is controlled by the clock control 128 and the down sampling N selector 126. The selectable MUX 132 produces one of the data rates

of 1 Gbps, 500 Mbps, 250 Mbps, 200 Mbps, 100 Mbps, 50 Mbps based on the down sampling blocks 130b, 130c, 130d, 130e, 130f, 130g, respectively. (see Miao at paragraphs 0035–0036).

Claims 7, 15, and 22 depend upon independent claims 1, 9, and 16, respectively. As discussed above, Marin does not disclose, teach, or suggest all of the elements of independent claims 1, 9, and 16. Furthermore, Miao does not cure the deficiencies in Marin, as Miao also does not disclose, teach, or suggest, at least, “*incrementing a port transmission rate using a variable resolution*,” as recited in independent claim 1, and similarly recited in independent claims 9 and 16. Thus, the combination of Marin and Miao does not disclose, teach, or suggest all of the elements of claims 7, 15, and 22. Additionally, claims 7, 15, and 22 should be allowed for at least their dependence upon independent claims 1, 9, and 16, and for the specific elements recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art references fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-22 be allowed, and this application passed to issue.



If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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